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**A N Allen Nobles  
& Associates, Inc.**  
PROFESSIONAL SURVEYING & ENGINEERING

4/24/03

**PROJECT NARRATIVE**  
**Ravine Erosion Stabilization**  
Marcia A. Hengehold  
Parcel # 112251 D 1682

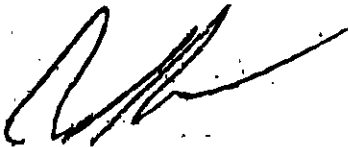
This project consists of paving the invert of a storm water channel to limit erosion of the channel bottom.

The Hengehold residence is located on the north bank of a ravine carrying storm water from Miccosukee Road, Maggie Lane and the Mt. Zion Church area. Total drainage area is roughly 30 acres. Slopes in the approach areas range up to 20%. The ravine banks are steeper with 2:1 slopes.

The ravine is a meandering watercourse normally dry. During rainfall events, it carries a large flow and the bottom is continually eroding. This erosion has undercut a retaining wall on the Hengehold property. The concrete paving was poured on the bottom of the ravine only. The side banks were not affected. This paving is intended to slow the erosion of the ravine bottom and limit damage to the retaining wall.

The slope of the ravine bottom was unchanged by the paving. The width was unchanged by the paving. The side slopes were not changed and remain in a natural condition. The rough surface texture of the concrete approximates the texture of the Orangeberg clay up and downstream from the concreted section.

In our opinion, the flow characteristics of the ravine have not been changed by the concrete bottom. The quantity of storm water, speed of the flow, quality, and time of concentration across the Hengehold property are not changed.



William P. Adams PE

*Original is  
signed and sealed*